

SOLID OXIDE FUEL CELLS

CENTER

This center “graduated” this year. SOFC was established to develop technology for the conversion of chemical energy of oxidation of gaseous fuels such as natural gas, coal, gas, biogas, and gasifiable fuels such as gasoline and diesel, into electricity for residential and remote applications, hospitals, malls, school buildings, office buildings, etc. The objective is to develop 1 to 5 kW modular units that can be readily integrated with a fuel processor. These units will also have applications in transportation as auxiliary units. In addition, the Center technology is ideally suited for small portable power units in the 10 to 100 W range. The applications include portable power for medical devices, laptop computers, portable power for soldiers, etc.

TECHNOLOGY

The principal Center technology is planar, anode-supported, thin YSZ film, low temperature, Solid Oxide Fuel Cell (SOFC). The main focus of the Center technology is the development of high performance, anode-supported SOFC in 5 cm x 5 cm size, and the development of stacking strategy. The stacks are internally manifolded and utilize flexible, glass-free seals. The cells and stacks are thermal shock-resistant.

ACCOMPLISHMENTS

Center work has led to the filing of numerous invention disclosures and two patents. Center funding has facilitated the establishment of SOFC Consortium between the University of Utah, Gas Technology Institute, Electric Power

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Can you imagine.....

A portable generator you can take on your next camping trip that efficiently converts propane to electricity with no flame, no moving parts, no noise and only water vapor as exhaust pollutant?



Research Institute and Materials and Systems Research, Inc. All four Consortium members have recently signed a Letter of Intent to form a new company for the commercialization of the Center SOFC technology. The University of Utah will be an equity participant. The Center funding has also led to other external funding from agencies such as DOE, DOC, DARPA.

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